Fall 9-10-2022

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Oluwaseyi Esther Afolabi
Tai Solarin University of Education, Ogun State, Nigeria, josephsholuwasheyi@gmail.com

Opeyem Ebenezer Afolabi
Osun State University, Ikire, Osun State, opeyemiafolabi49@gmail.com

Marcus Oladotun Aragbaye
University of Ibadan, Nigeria, aramardotmarcus@gmail.com

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BY

Oluwaseyi Esther Afolabi
Tai Solarin University of Education, Ijagun, Ogun State.
Josephsholuwasheyi@gmail.com

Opeyemi Ebenezer Afolabi
Osun state University, Ikire, Osun State.
Opeyemiafolabi49@gmail.com

And

Marcus Oladotun Aragbaye
University of Ibadan, Ibadan, Oyo State.
aramardotmarcus@gmail.com

ABSTRACT

Research is an activity that brings about new discoveries and in order to perform it, competence is required. However, studies on research competence are a seldom area that needs more attention. Therefore, the purpose of this study is to investigate the research competence of postgraduate students in library schools in South-west, Nigeria. The peculiarity of this study is that research competence was sub-divided into three (3) different areas comprising: research knowledge, research skills, and research attitude. Descriptive survey research design was adopted for the study. The study covered one hundred and sixty-one (161) library and information science postgraduate students in South-west, Nigeria and a total enumeration technique was adopted for this study to cover the total population size. Questionnaire was used as the instrument in collecting data from the respondents. The data collected were analyzed using frequency distribution table and percentage.

The study found that level of research competence possessed by the postgraduate students in library schools in South-west, Nigeria is high. Also, results from the study showed that research skills have the highest mean value and standard deviation ($\bar{x}$=41.15; std dev. = 12.863); followed

by research knowledge ($\bar{x}$=39.34; std dev. = 11.641) and lastly research attitude ($\bar{x}$=32.59; std dev. = 10.785). The study also found out that the research competence possessed by the postgraduates' students in library schools in South-west, Nigeria includes: ability to define a research problem, knowing how to formulate research questions/hypotheses, they know how to develop conceptual model for my study, they know how to explain the significance of the study, they know how to formulate research objectives, etc. The study concluded that postgraduate needs to have a positive attitude towards research. Also, lecturers are advised to develop new method of teaching research method.

Keywords: Research, Research competence, skills, knowledge, and attitude

INTRODUCTION

Research as an activity is considered as one of the most important aspects in the academic community. It is an activity that involves the process of generating, discovering, inventing and creating new knowledge. Its impact cannot be overstated as it cut across different areas of human doings such as teaching, decision making, policy implementation, accreditation and so on. In the universities, research is one of the key tools in academic achievement and excellence. Likewise, in the evaluation of programs and institutions relative to accreditation, the research element is one of the areas being assessed. This forms the ability universities to produce research that would generate knowledge for productivity of the institutions (Palispis, 2008). However, due to the efficacy of research in the academic community, the curriculum especially for postgraduate study, is mostly designed in a way to help students improve on their research competencies which enables them possess the required skill, knowledge and attitude needed to do research.

Research competencies are needed skills and experience to do research. Such skills could have been developed or enhanced through schooling, seminars and similar activities attended. Experiences in the conduct of research also contribute to enhancing research competencies and outputs, as the next frontier, after the improved educational delivery. As posited by Yarullin, Bushmeleva and Tsyrkun (2015) research competence is an example of meta-subject competence. It includes the whole complex of educational competences directly connected with thought, search, logic, and creative processes of students' knowledge mastering. They also viewed research competence as comprising motivation goal, communicative, cognitive, active operation components.

Mallari and Santiago (2013) stated that research competence entails identification of potential sources of research problems in the various disciplines, the identification of disagreements and inconsistencies in the meanings of a particular concept as used in the practice of various disciplines, appraisal of certain practices in the various disciplines. It also includes formulation of questions, construction of hypotheses, assessment of the appropriateness of scope and boundaries of the research, employment of the correct procedures in conducting review of related literature and using the literature review in enhancing the research questions and framework. Research competence is a significant attribute that should be developed for all postgraduate students. Postgraduate student with knowledge, skills, and positive expression of research will understand the systematic thinking, analysis, and synthesis. This will lead to an

academic development of all postgraduate and enable the discovery of new knowledge and innovation, to assist in problem resolution systematically, and the knowledge can be further developed continuously (Arayapipat, 2010).

Higher education has a key role to play in the creation and dissemination of knowledge as well as imparting necessary research skills to students and preparing them for the knowledge society. In order for postgraduate students to be able to carry out the research process effectively which are choosing a research topic or research problem, literature review, formulation of objectives, research questions and hypotheses, research design, organisation and presentation of data, analysis and discussion of data, conclusion and recommendations and dissemination of research findings, there is need to make sure that the postgraduate students gain the appropriate knowledge and skills in conducting research and also that their attitude towards conducting research is improved on. Therefore, in this study, research knowledge, skills and attitude form the premise of research competence and this study is committed to investigate the research competence of postgraduate students in library schools in South-west, Nigeria.

Research Question

- What is the level of the research competence of postgraduate students in library schools in South-west, Nigeria?

LITERATURE REVIEW

Few studies have been carried out on the research competence of postgraduate studies; hence, the review of this construct is done using a funnel approach. Akuegwu and Nwi-ue (2018) conducted research on the graduate students' acquisition of research skills in universities in Cross River State Nigeria for development of the total person. Survey design was adopted; two research questions and one hypothesis were isolated to give direction to this investigation. 3018 graduate students in the two universities constituted the population. 300 of them were drawn as sample using stratified random sampling technique. The study found out that graduate students have low research skills acquisition. They acquire the highest skills in reading, oral presentation/communication and information gathering and least skill in analysis. It was recommended that graduate students should be made to participate in more research-oriented activities, so as to enhance their research skill acquisition for development of the total person.

Al-Furaikh, Al-Omairi and Ganapathy (2017) conducted a study on a cross-sectional survey on nursing students' attitude towards research. The aim of the study is to analyse the attitudes of undergraduate nursing students towards research components in order to discover implications for the best practices in teaching/learning process. A descriptive, cross-sectional investigation was carried out with purposively selected 186, level 5-8 students at the college of nursing, a King Saud bin Abdulaziz University for health sciences, Al-ahsa from 2016-2017. Data on students' attitudes towards research were collected using a self-administered questionnaire. The overall attitude towards research was positive.

Muthuswamy, Vanitha, Suganthan, and Ramesh (2017) carried out a study on a study on attitude towards research among the doctoral students in VIT University, Tamilnadu, India. The main aim of the study was to assess the attitude towards research among doctoral students and find the various dimensions of attitude. The study revealed that attitude towards research has multiple dimensions and comprehending the attitudes of the students towards research would bridge the gap between the research supervisor and his ward. Assessing the attitude and diagnosing the areas that needs to be addressed is the need of the hour to find solution to various problems of doctoral students. Acquiring sufficient knowledge to carry forward the research is a key aspect in the research progress. The methodology used for this research is a self-developed questionnaire which is used to assess the attitude towards research. 159 doctoral students were sampled for the study. The factor analysis yielded 6 factors of attitude towards research which are love for research, research fear, research usefulness, difficulties in research, importance of research and benefits of research.

Caliwan-Fuentes (2017) carried out a study on research competence of teacher education students in Eastern Samar State University main campus. Descriptive study was adopted for this study, a total of 136 students were randomly selected. The study revealed that respondents are practitioners in the field of research with a mean of 3.34, and also the respondents are practitioners in writing introduction, methodology, results and discussion, conclusion and recommendation, abstract and references which implies that writing research paper is an activity the respondents are familiar with. The study also revealed that sources of research competences which are current research course, self-study/reading reference materials and research, training and seminars and study mission. The study also revealed that the common problem encountered by the respondents

in the conduct of research is the lack of time/class schedule which does not allow the conduct of research.

Dominguez and Judikis (2016) carried out a study on development of a research competence in university students of Mexico through blended learning. The study identifies the knowledge, skills and values that the research competence must contain and also identified the knowledge and skills that a university student must possess to be considered with the competence which are: scientific and technical knowledge, methodological knowledge, correct punctuation, grammar and spelling, procedures for asking and identifying issues of the research project, procedures for planning the time needed to work on the research/formulation of research projects. Identifying and writing scientific hypothesis for research project, developing communication skills, developing goals and purposes, academic skills, skills to manage research amongst others.

Ali and Akayuure (2016) conducted research on exploring postgraduate students' research knowledge and skills in normality tests and verifications. The study explored research knowledge and skills of postgraduate students in testing and verifying normality of data in order to boost their confidence and credibility of educational research findings. This exploratory survey randomly sampled 66 postgraduate students, out of about 150 postgraduate students in five faculties of the University of Education, Winneba, Ghana. The study variables were graduate students' knowledge of types of statistics, measurement scales, data forms, and instruments of data collection. The others were their understanding in confidence levels, numerical, theoretical, and graphical tests. The rest were their challenges in presentation, interpretation, labelling, computation, and discussion of research results. The results revealed that the postgraduate students require these innovative skills in order to test and verify their educational research data. The researchers observed that postgraduate students have difficulties in exploring and reporting normality tests and verifications to their research data.

Ugwu, Ifeanyieze and Agbo (2015) conducted research on the research competence needs of postgraduate students of science, technology, engineering and mathematics (STEM) education in research writing in Nigerian Universities. Descriptive survey research design was adopted for this study, and a total of 372 respondents comprising of 222 master and 150 PhD students of science, technology, engineering and mathematics (STEM) in nine universities in south-eastern Nigeria. The findings of this study reveal that although it is the wish of the postgraduate students to carry out research writing with ease but the postgraduate students of Nigerian Universities show

that they are deficient in most research writing competencies. The study reveals that the postgraduate students have the knowledge of research writing but lacks the skills needed to carry it out effectively

Deka, Mishra and Patel (2015) conducted a study on attitudes of post graduate students towards research, the study aimed at assessing the research attitude of post graduate students studying in post graduate departments of Degree College of Physical Education the study had a total of 75 subjects, out of which 25 subjects from each faculty was selected randomly as sample for the present study. Result of study showed that the post graduate students predominantly showed negative attitude towards research. The study reveals that the general aspect of research and research process of masters of computer application (MCA) students were highest (49.96) and management students were lowest (45.08) amongst the studied groups, and also the difficulties in research and anxiety of management students were highest (37.58) and MCA were lowest (36.69) amongst the studied groups.

Ugwu, Ifeanyieze and Agbo (2015) also in a study on the research competence needs of postgraduate students of science, technology, engineering and mathematics (STEM) education in research writing in Nigerian Universities found out that although it is the wish of the postgraduate students to carry out research writing with ease but the postgraduate students of Nigerian Universities show that they are deficient in most research writing competencies. The study reveals that the postgraduate students have the knowledge of research writing but lacks the skills needed to carry it out effectively.

Memarpour, Fard and Ghasemi (2015) conducted research on evaluation of attitude to, knowledge of and barriers toward research among medical science students. They examined knowledge and obstacles to conduct research among undergraduate and postgraduate students in the field of medicine in addition to their attitude. Their study showed favourable knowledge of research, but students' opinion towards research was inadequate. Undergraduates showed better attitude than postgraduate students and females had better knowledge than males, but no gender-based difference was observed in attitude to research.

Meerah, Osman, Zakaria, Ikhsan, Krish, Choo Lian and Mahmod (2014) conducted research on measuring graduate research skills. The paper reported the research knowledge and skills of a random sample of University of Kebangsaan Malaysia postgraduate students. For the purpose of the study, a questionnaire was developed and validated. A total of 529 respondents

were random selected to fill a questionnaire to measure the outcomes in research knowledge and skills. It is shown to have a moderately high reliability coefficient in the construct measured (statistical analysis, information seeking, problem solving, communication and methodology). The results indicate that the graduates in general have moderate knowledge and competencies to conduct research. The implication of the study is that further enhancement of the research training is needed in order to produce very knowledgeable and skillful researcher in the students' field of specialization.

Van der westhuizen (2014) carried out a study on postgraduate students' attitudes towards research, their research self-efficacy and their knowledge of research in a distance learning education institution in South-Africa. The purpose of this study was to determine the degree to which an online module influenced postgraduate students' attitudes towards research, their research self-efficacy and their knowledge of research. A total of 279 postgraduate students were enrolled for an online course in research methodology (n = 97 for semester 1 in 2012 and n = 182 for semester 2 in 2012) at a distance education institution in South Africa. The attitudes towards research scale, self-developed research self-efficacy and knowledge test were administered in a single group pre test-post test design. Dependent t-tests revealed that in general, students' positive attitudes towards research, their research self-efficacy and their knowledge of research increased from the onset to the completion of the module. However, students' perceptions of the usefulness of research for their careers declined and their research anxiety and self-efficacy with regard to data analysis remained unchanged on completion of the module. These findings indicate that addressing students' perceptions of the usefulness of research for their careers and their research anxiety may be more complex than anticipated and that it could be a process that is independent of addressing students' research self-efficacy and their knowledge of research.

Shaukat, Siddiquah, Abiodullah, Akbar (2014) conducted a study on Postgraduate Students' Attitudes towards Research among postgraduate students of teacher education in Universities in Pakistan. The objective of the study was to assess the post graduate students' attitudes towards research in relation to gender, age, program of study, and type of university on five factors: research usefulness, research anxiety, positive attitudes, relevance to life, and difficulty of research. About 201 students from different teacher education program responded to the questionnaire. Descriptive and inferential statistics were used to analyse the data. The study explored the effects of demographic variables on the students' attitudes towards the research. It

was found that the male students perceived research relevance to the life significantly better compare to the female students. Research attitude and perceived research usefulness for profession was significantly better in elder age groups of students (30-40, and above 40 years) compared to the younger age group. Participants of M.Phil./MS held significantly more positive attitudes than the participants of B.S honors/ M.A. (medium effect size of 0.51) and attitude of PhD participants was significantly better than both M.Phil./MS and B.S honors/M. A student (medium effect size of 0.51).

Research Methodology

Descriptive survey research design was adopted for the study. The study covered one hundred and sixty-one (161) library and information science postgraduate students in South-west, Nigeria and a total enumeration technique was adopted for this study to cover the total population size. The population is presented in the table below. A well-structured, self-designed, validated and close-ended questionnaire was used as the instrument in collecting data from the respondents. The questionnaire was validated accordingly. The data collected were analyzed using frequency distribution table and percentage.

S/N	UNIVERSITY	NO. OF STUDENTS
1.	Adeleke University, Ede.	7
2.	Babcock University, Ilisan	40
3.	Lead City, Ibadan	9
4.	Tai Solarin University of Education, Ijebu-Ode	35
5.	University of Ibadan	70
	Total	**161**

Results

Demographic characteristics of the respondents

Table 2. showed that 7(4.4%) of the respondents are postgraduate students of Adeleke university, Ede; 40(25.2%) are from Babcock university, Ilishan Remo; 9(5.7%) are from Lead City university, Ibadan; 35(22.0%) are from Tai Solarin university of education, Ijebu-Ode while the remaining 68(42.5%) are from university of Ibadan, Ibadan. This implies that majority of the respondents used in this study are from university of Ibadan.

Table 2. Distribution of respondents by demographic

Respondents' Demographic Information	Frequency	Percentage (%)
Institution		
Adeleke University, Ede, Osun State	7	4.4%
Babcock University, Ilishan Remo, Ogun State	40	25.2%
Lead City University, Ibadan, Oyo State	9	5.7%
Tai Solarin University of Education, Ijebu-Ode, Ogun State	35	22.0%
University of Ibadan	68	42.8%
Faculty		
Arts/Education	9	5.7%
Business and Social Science	7	4.4%
College of Specialised Education	36	22.6%
Education	67	42.1%
Management Science	40	25.2%
Religion		
Christianity	118	74.2%
Islam	41	25.8%
Gender		
Male	68	42.8%
Female	91	57.2%
Marital Status		
Married	88	55.3%
Single	71	44.7%
Age range		
21-25	31	19.5%
26-30	55	34.6%
31-35	10	6.4%
36-40	22	13.9%
41-45	18	11.3%
46-50	16	10.1%
51-55	4	2.6%
56-60	3	1.9
Total	**271**	**100.0%**

Based on their faculties, 9(5.7%) are from Faculty of Arts/Education, 7(4.4%) are from Faculty of Business and Social Science, 67(42.1%) are from Faculty of Education while the remaining 40(25.2% are from Faculty of Management Science. This implies that this study is

dominated by postgraduate students from Faculty of Education. In terms of their religion, 118(74.2%) are Christians while the remaining 41(25.8%) are Muslims. Also, 68(42.8%) are male while the remaining 91(57.2%) are females. Similarly, 88(55.3%) are married while the remaining 71(44.7%) are single; implying that most of the respondents are married.

By their age range, 31(19.5%) are within the age bracket of 21-25 years, 55(34.6%) are between 26-30 years of age, 10(6.4%) fall within the age bracket of 31-35 years of age, 22(13.9%) are between 36-40 years of age, 18(11.3%) fall within the age bracket of 41-45 years, 16(10.1%) are between the age of 46-50 years, 4(2.6) are between the ages of 51-55 years while the remaining 3(1.9%) fall with the age bracket of 56-60 years. This implies that this study is dominated by respondents within the age bracket of 26-30 years.

Answers to research question:

What is the level of research competence of postgraduate students in library schools in South-west, Nigeria?

Table 3. showed the research competence of postgraduate students in library schools in South-west, Nigeria. This was sub-divided into three (3) different areas comprising: research knowledge, research skills, and research attitude.

Table 3: Level of research competence of postgraduate students in library schools.

S/N	Items	SA	A	D	SD		$\bar{x}$	Std Dev
		Research Knowledge						
1.	I know how to write the statement of the problem for my research	0 0.0%	9 5.7%	89 56.0%	61 38.4%		3.33	.579
2.	I know how to formulate research objectives	2 1.3%	11 6.9%	68 42.8%	78 49.1%		3.40	.675
3.	I know how to formulate research questions/hypotheses	0 0.0%	8 5.0%	80 50.3%	71 44.7%		3.58	2.419
4	I know how to explain the significance of the study	0 0.0%	6 3.8%	79 49.7%	74 46.5%		3.43	.568
5.	I know the critical skills needed to read and summarise the contents of the literature	0 0.0%	12 7.5%	98 61.6%	49 30.8%		3.23	.576
6.	I know how to review and analyse previous literature	4 2.5%	17 10.8%	82 52.2%	54 34.4%		3.18	.723
7.	I know how to identify and apply relevant theories in my study	0 0.0%	12 7.5%	98 61.6%	49 30.8%		3.23	.576
8.	I know how to develop conceptual model for my study	0 0.0%	16 10.1%	70 44.0%	73 45.9%		3.55	2.518
9.	I know how to determine subjects and draw participants for my study	0	23	73	63		3.25	.693

#	Statement						Mean	Std Dev
		0.0%	14.5%	45.9%	39.6%			
10.	I know how to use suitable academic referencing style to format list of references	2	21	77	59		3.21	.715
		1.3%	13.2%	48.4%	37.1%			
11.	I know how to choose the right research methodology for my research work	4	15	93	47		3.15	.686
		2.5%	9.4%	58.5%	29.6%			
12.	I know how to use the current statistical tool for my data analysis	19	28	78	34		2.80	.913
		11.9%	17.6%	49.1%	21.4%			
					Grand mean = 39.34; Std Dev.= 11.641			
	Research Skills							
13.	I can write an abstract	2	12	87	58		3.26	.651
		1.3%	7.5%	54.7%	36.5%			
14.	I can confidently develop background to the study in any research work	3	13	83	60		3.26	.686
		1.9%	8.2%	52.2%	37.7%			
15.	I have the ability to define a research problem	6	21	77	55		3.72	4.284
		3.8%	13.2%	48.4%	34.6%			
16.	I have the ability to plan a research	2	21	89	47		3.14	.680
		1.3%	13.2%	56.0%	29.6%			
17.	I can explain the purpose of my research	2	14	82	61		3.27	.672
		1.3%	8.8%	51.6%	38.4%			
18.	I can confidently write the significance of the study	2	15	94	48		3.18	.645
		1.3%	9.4%	59.1%	30.2%			
19.	I can do a literature review	2	17	103	37		3.10	.618
		1.3%	10.7%	64.8%	23.3%			
20.	I can develop correctly a conceptual model for my research	4	21	84	50		3.13	.730
		2.5%	13.2%	52.8%	31.4%			
21.	I can confidently describe data collection procedure	8	26	82	43		3.01	.800
		5.0%	16.4%	51.6%	27.0%			
22.	I can develop the pattern of my literature review using my conceptual model	4	21	96	38		3.06	.687
		2.5%	13.2%	60.4%	23.9%			
23.	I am able to identify appropriate method for analysing my data	12	29	87	31		2.86	.815
		7.5%	18.2%	54.7%	19.5%			
24.	I can make valid conclusion from the result of analysis	11	21	80	47		3.03	.842
		6.9%	13.2%	50.3%	29.6%			
25.	I can identify relevant theories that best explain my research	7	15	88	49		3.13	.753
		4.4%	9.4%	55.3%	30.8%			
					Grand mean =41.15; Std Dev.= 12.863			
	Research Attitude							
26.	Writing the background to the study makes me scared	35	62	40	22		2.69	.968
		22.0%	39.0%	25.2%	13.8%			
27.	Statement of the problem is very difficult to write	34	55	43	27		2.60	1.006
		21.4%	34.6%	27.0%	17.0%			
28.	Research objectives are so stressful for me to come up with	39	71	29	20		2.81	.949
		24.5%	44.7%	18.2%	12.6%			
29.	Research questions and hypotheses writing makes me nervous	39	66	35	19		2.79	.950
		24.5%	41.5%	22.0%	11.9%			
30.	I feel confident writing the literature review	15	39	74	31		2.76	.875
		9.4%	24.5%	46.5%	19.5%			
31.	I feel research is stressful and also a complex task	20	38	63	38		2.25	.961
		12.6%	23.9%	39.6%	23.9%			
32.	I find it easy choosing the correct research design for my study.	15	56	69	19		2.58	.822
		9.4%	35.2%	43.4%	11.9%			
33.	I find it difficult to understand the concepts of research	25	71	47	16		2.66	.863
		15.7%	44.7%	29.6%	10.1%			

34.	I feel confident at interpreting and writing a research paper	10	34	73	42		2.92	.853
		6.3%	21.4%	45.9%	26.4%			
35.	It is difficult for me to use statistical tools for my study analysis.	27	51	57	24		2.51	.947
		17.0%	32.1%	35.8%	15.1%			
36.	I find it easy to communicate my research and its finding	10	27	81	41		2.96	.826
		6.3%	17.0%	50.9%	25.8%			
37.	I feel good about my research outcome	8	18	90	43		3.06	.765
		5.0%	11.3%	56.6%	27.0%			
						Grand mean = 32.59; Std Dev.= 10.785		

Key: SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree

The result (Table 3.) showed that the respondents indicated that some of the potent research competence possessed by the students include: they have the ability to define a research problem ($\bar{x}$=3.72; std dev. = 4.284); they know how to formulate research questions/hypotheses ($\bar{x}$=3.58; std dev. = 2.419); they know how to develop conceptual model for my study ($\bar{x}$ =3.55; std dev. = 2.518); they know how to explain the significance of the study ($\bar{x}$=3.43; std dev. = .568); they know how to formulate research objectives ($\bar{x}$=3.40; std dev. = .675); they know how to write the statement of the problem for my research ($\bar{x}$=3.33; std dev. = .579); they can explain the purpose of my research ($\bar{x}$=3.27; std dev. =.672); they can write an abstract ($\bar{x}$=3.26; std dev. =.651); they can confidently develop background to the study in any research work ($\bar{x}$=3.26; std dev. =.651) and that they know how to determine subjects and draw participants for my study ($\bar{x}$=3.25; std dev. =.693).

Also, it was also revealed by the table (Table 3.) that the least potent research competence possessed by the students are; they feel research is stressful and also a complex task ($\bar{x}$=2.25; std dev. = .961); It is difficult for them to use statistical tools for their study analysis. ($\bar{x}$=2.51; std dev. = .947); they find it easy choosing the correct research design for their study ($\bar{x}$ =2.58; std dev. = .822); statement of the problem is very difficult to write ($\bar{x}$=2.60; std dev. = 1.006); they find it difficult to understand the concepts of research ($\bar{x}$=2.66; std dev. = .863).

Research competence has three indicators which are research knowledge, research skills and research attitude. Results shows in table 3 that research skills has the highest mean value and standard deviation ($\bar{x}$=41.15; std dev. = 12.863); followed by research knowledge ($\bar{x}$=39.34; std dev. = 11.641) and lastly research attitude ($\bar{x}$=32.59; std dev. = 10.785).

Based on this, it can be inferred that some of the research competence possessed by the postgraduates students in library schools in South-west, Nigeria include: ability to define a

research problem, knowing how to formulate research questions/hypotheses, they know how to develop conceptual model for my study, they know how to explain the significance of the study, they know how to formulate research objectives , they know how to write the statement of the problem for my research, they can explain the purpose of my research, ability to write an abstract, ability to confidently develop background to the study in any research work, they know how to determine subjects and draw participants for my study among others

In order to establish the level of research competence possessed by the postgraduate students in library schools in South-west, Nigeria, a test of norm was conducted. There are thirty-seven statements all together in the scale used to measure research competence and four measures (Strongly Agree, Agree, Disagree and Strongly Disagree). The thirty-seven statements were multiplied by the four measures, which gives a score of 148. The division of 148 by 3 gives 49.33. Thus, the scale between 1 – 49.33 is low; 49.34-98.66 is moderate while 98.67 – 148 is high. The overall mean of the level of research competence possessed by the postgraduate students in library schools in South-west, Nigeria is "112.08" which falls between the scales "98.67-148". It can therefore be concluded that the level of research competence possessed by the postgraduate students in library schools in South-west, Nigeria is high.

Test of norm for level of research competence of postgraduate students

Score	Level
1-49.33	Low
49.34-98.66	Moderate
98.67-148	High

Discussion of findings:

Finding from this study showed that some of the research competence possessed by the postgraduates students in library schools in South-west, Nigeria include: ability to define a research problem, knowing how to formulate research questions/hypotheses, they know how to develop conceptual model for my study, they know how to explain the significance of the study, they know how to formulate research objectives , they know how to write the statement of the problem for my research, they can explain the purpose of my research, ability to write an abstract, ability to confidently develop background to the study in any research work, they know how to determine subjects and draw participants for my study among others.

Also, finding of the study revealed that the level of research competence possessed by the postgraduate students in library schools in South-west, Nigeria is high. This finding is in line with the position of Arayapipat, (2010) which stated that research competence leads to the academic development of all professions and enable the discovery of new knowledge and innovation, to assist in problem resolution systematically, and the knowledge can be further developed continuously. However, the study of Habineza (2018) on an exploratory survey of undergraduate students' attitudes towards research in ineh-ruhengeri in Rwanda supports the findings of this study. The study found that the levels of research competence were high in the factors of usefulness of research and the positive predispositions to research.

To support this study, Caliwan-Fuentes (2017) carried out a study on research competence of teacher education students in Eastern Samar State University main campus. The study revealed that respondents are practitioners in the field of research with a mean of 3.34, and also the respondents are practitioners in writing introduction, methodology, results and discussion, conclusion and recommendation, abstract and references which implies that writing research paper is an activity the respondents are familiar with.

Meerah, Osman, Zakaria, Ikhsan, Krish, Choo Lian and Mahmod (2014) conducted research on measuring graduate research skills. The paper reported the research knowledge and skills of a random sample of University of Kebangsaan Malaysia postgraduate students. It is shown to have a moderately high reliability coefficient in the construct measured (statistical analysis, information seeking, problem solving, communication and methodology). The results indicate that the graduates in general have moderate knowledge and competencies to conduct research. Furthermore, the findings of Al Furaikh, Al Omairi and Ganapathy (2017) agreed with the findings if this study which reported that the level of research competence was high. Most of the postgraduates regarded that research is useful for the nursing profession. A high level of research competence was demonstrated by 68% of the nursing students, 61% reported that research plays an important role in professional and personal life, whereas the highest proportion of students (71%) perceived research as a difficult, complicated, stressful subject and 64% reported statistical difficulty.

The study was also supported by Manuel, Fenton and Philemon (2013) who carried out a study on university students' attitude towards quantitative research methods, the study however found that more psychology than sociology postgraduates had high level of research competence.

Meraj, Gul, Zubaidazain, Akhter, Iram, and Khan (2016) in their study on perceptions and attitude towards research amongst medical students found that students enjoyed research; however, they found that some of them perceived research as stressful and complex. Daniel, Kumar and Omar (2017) conducted research on postgraduate conception of research methodology. They oriented their research in the qualitative perspective and noted that some postgraduate students recognised that research methodology was a set of knowledge which needed to be learnt while others considered learning research methodology as an acquisition of isolated facts and skills which is not a discipline as a whole. They reported that students faced challenges on understanding some topics of research methodology.

Furthermore, the outcome of this study does not agree with the study investigated by Bandele and Adebule (2013) patterns of graduating students' research competence at Ekiti State University, Ado-Ekiti in order to have insight into their level of competence. The findings revealed that research work makes the students anxious, nervous, bored, scared and that they would not have enrolled for the course if opportune. Also, the findings show that irrespective of type of gender and faculty of the students they are similar in their pattern of attitude to research work. It can be concluded that almost all the graduating students had a low level of research competence which is not a welcomed development if a nation is to have a breakthrough in research. Also, the findings of Sola and Ojo (2007) negate the findings of the study. It was submitted that there was no significant difference in the mean dispositional scores of male and female postgraduate students to research indicating a low level of research competence. In the same vein, Oguan, Bernal and Pinca (2014) also found that postgraduates had a low level of research competence. In addition, they mentioned that postgraduates showed anxiousness towards research and admit that it was stressful.

Memarpour, Fard and Ghasemi (2015) carried out a study on postgraduates and the study could not support the findings of this study which reported the low level of research competence. It further reported that medical science students in three schools of medicine, dentistry and pharmacy showed a favourable knowledge of research, but their attitude toward the process ranked at below moderate. Postgraduate students showed a better attitude than residents. Females had a better knowledge of research than males. The majority of students considered there were barriers to the performance of research. While all students were involved in at least one research project,

students are given no mandatory input on research theory and practice that might deepen their understanding of the research process.

Conclusion and recommendation

The findings from this study have reported the various research knowledge, skills and attitude possessed by postgraduate students which forms the premise of their research competence. However, postgraduate students need to know that they have a role to play in ensuring they have an improved research competence specifically by developing a positive attitude towards research and also avoid all negative attitudes that will affect their interest in research work. Also, lecturers are also expected to do the needful by developing new methods to teach research methods to postgraduate students so that their positive attitude towards research will not be reduced, their research skills will be maintained and improved on. The improvement in the teaching methods for research will also boost their academic performance as it will help them to perform better in their independent study as well source for relevant knowledge that will help them ace their assignments as well as their term paper. Lastly, in order to harness the research potentials of postgraduate students, library schools need to organise and encourage postgraduate students to engage in research training such as seminars, workshops and conferences.

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